

**What is claimed is:**

1           1.    An image processing method able to maintain the  
2   image display quality of a transmitting system during a  
3   channel conversion from a first channel to a second  
4   channel, wherein a first image signal and a second image  
5   signal are respectively transmitted to the transmitting  
6   system from the first channel and the second channel,  
7   comprising the steps of:

8           (A) sending a channel conversion request to the  
9           transmitting system;

10          (B) controlling the transmitting system to stop  
11          transmitting the first image signal and start  
12          to transmit a preset image signal; and

13          (C) stopping transmission of the preset image  
14          signal, and starting transmission of the second  
15          image signal.

1           2.    The image processing method as claimed in claim  
2   1, wherein the step (C) further comprises the steps of:

3           (D) determining whether the transmitting system is  
4           ready for the channel conversion from the first  
5           channel to the second channel; and

6           (E) if the transmitting system is ready for the  
7           channel conversion, stopping transmission of  
8           the preset image signal, and starting  
9           transmission of the second image signal.

1           3.    The image processing method as claimed in claim  
2   2, wherein the step (D) further comprises the step of:

3 (F) detecting the stability of the second image  
4 signal by a detector, and converting the  
5 channel from the first channel to the second  
6 channel after the second image signal is  
7 stable.

1 4. The image processing method as claimed in claim  
2 2, wherein the step (D) further comprises the step of:

3 (G) comparing the deviation among a plurality of  
4 continuous images of the second image signal,  
5 and converting the channel from the first  
6 channel to the second channel after the  
7 deviation is less than a predetermined value.

1 5. The image processing method as claimed in claim  
2 2, wherein the step (D) further comprises the step of:

3 (H) converting the channel from the first channel to  
4 the second channel after transmitting the  
5 preset image signal for a period of time.

1 6. The image processing method as claimed in claim  
2 1, wherein the preset image signal has an image with a  
3 black background.

1 7. The image processing method as claimed in claim  
2 6, wherein the image with a black background has a  
3 prompting string to prompt channel conversion.

1 8. The image processing method as claimed in claim  
2 1 further comprises the steps of:

3 (I) digitizing the first image signal and  
4 compressing the digitized first image signal

5 with a predetermined compression method by the  
6 transmitting system; and

7 (J) digitizing the second image signal and  
8 compressing the digitized second image signal  
9 with a predetermined compression method by the  
10 transmitting system.

1 9. The image processing method as claimed in claim  
2 8, wherein the predetermined compression method involves  
3 a "group of pictures" technique.

1 10. The image processing method as claimed in claim  
2 8, wherein the predetermined compression method is MPEG4  
3 developed by the MEPEG (Moving Picture Experts Group).

1 11. A transmitting system, comprising:

2 a receiving module for receiving a channel  
3 conversion request;

4 a tuner for channel conversion from a first channel  
5 to a second channel, wherein a first image  
6 signal and a second image signal are  
7 respectively transmitted to the transmitting  
8 system from the first channel and the second  
9 channel;

10 a controlling device to control the tuner for  
11 channel conversion according to the channel  
12 conversion request, stopping transmission of  
13 the first image signal and transmitting the  
14 preset image signal instead, and starting  
15 transmission of the second image signal after

16                   stopping transmission of the preset image  
17                   signal; and  
18           a storage device for storing the preset image  
19           signal.

1           12. The transmitting system as claimed in claim 11  
2 further comprises a detector for detecting the stability  
3 of the second image signal, and the channel is converted  
4 from the first channel to the second channel after the  
5 second image signal is stable.

1           13. The transmitting system as claimed in claim 11  
2 further comprises a comparator for comparing the  
3 deviation among a plurality of continuous images of the  
4 second image signal, and the channel is converted from  
5 the first channel to the second channel after the  
6 deviation is less than a predetermined value.

1           14. The transmitting system as claimed in claim 11  
2 further comprises a timer for timing a period of time  
3 after starting transmitting the preset image signal, and  
4 the channel is converted from the first channel to the  
5 second channel after the period of time.

1           15. The transmitting system as claimed in claim 11,  
2 wherein the preset image signal has an image with a black  
3 background.

1           16. The transmitting system as claimed in claim 15,  
2 wherein the image with a black background has a prompting  
3 string to prompt channel conversion.

1           17. The transmitting system as claimed in claim 11,  
2 further comprises:

3           an analog-digital converter for digitizing the first  
4           image signal and the second image signal; and  
5           an image encoding device for compressing the  
6           digitized first image signal and the second  
7           image signal by a predetermined compression  
8           method.

1           18. The transmitting system as claimed in claim 17,  
2 wherein the predetermined compression method involves a  
3 "group of pictures" technique.

1           19. The transmitting system as claimed in claim 17,  
2 wherein the predetermined compression method is MPEG4  
3 developed by the MPEG (Moving Picture Experts Group).